

REMARKS

Claims 17, 18, 20 and 24 were rejected under 35 U.S.C. 102(b) as being unpatentable as anticipated by Mizuno et al. (U.S. Pub. 2002/0012827). Claims 21 to 23 were rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Mizuno et al. in view of Iwase et al. (U.S. Patent 6,245,453). Claim 25 was rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Mizuno et al. in view of Kearn (U.S. Pub. 2003/0022052).

Claim 17 has been amended and new claims 38 to 40 have been added. Support is found in the specification for example at paragraphs [0008] and [0012].

Request for reconsideration of the present application in view of the foregoing amendments and the following remarks is respectfully requested.

Rejections under 35 U.S.C. 102(b)

Claims 17, 18, 20 and 24 were rejected under 35 U.S.C. 102(b) as being unpatentable as anticipated by Mizuno et al.

Mizuno et al. discloses a fuel cell unit cell 20 that includes an electrolyte membrane 31, an anode 32, a cathode and a separator 30. (Mizuno et al., paragraph [0043]). Oxidative gas and fuel gas is supplied through respective holes 40, 50 formed in separators 30 to recessed portions 90, 92 respectively. (Id., paragraph [0047]). Holes 41, 51 formed in separators 30 form respective transit manifolds 61, 64, through which gas leaving recessed portions 90, 92 may pass downward through into recessed portions 91, 93 and residual gases flow out of recessed portions 90, 92 at holes 42, 52, respectively. (Id., Figs. 2 and 5, paragraphs [0058] and [0060]).

Claim 17, as amended, recites “[a] fuel cell comprising:

a membrane electrode assembly (MEA);

a source of fresh operating substances;

a bipolar plate having:

an anode-side gas distributor structure for distributing anode reactants,

a cathode-side gas distributor structure for distributing cathode reactants,

a guide passage structure for distributing a cooling medium, wherein at least one of the anode-side gas distributor structure and the cathode-side gas distributor structure is

divided into at least a first field and a second field, each of the first and second field having an entry port and an exit port for the reactants, the reactants being depleted in the first field between the entry port and the exit port, and

an inlet port coupled to the source of fresh operating substances and at least one of the exit port of the first field and the entry port of the second field for introducing fresh operating substances into the at least one of the anode-side gas distributor structure and the cathode-side gas distributor structure so that the fresh operating substances mix with the reactants that are depleted in the first field and form a mixture that passes into the second field.”

Claims 18, 20, 24, 38 and 39 are dependent on claim 17.

Claim 17 has been amended in accordance with the Examiner’s suggestion at page 8 of the Final Office Action dated December 24, 2009. Applicants thank the Examiner for her suggestion, and it is respectfully submitted that Mizuno et al. does not disclose the “inlet port” now recited in claim 17 and thus claim 17 is allowable.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 17 and its dependent claims is respectfully requested.

Rejections under 35 U.S.C. 103(a): Mizuno et al. and Iwase et al.

Claims 21 to 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Mizuno et al. in view of Iwase et al.

Mizuno et al. is described above. Iwase et al. discloses a fuel cell that includes a separator 100A that includes inlet 105 and outlet 108 for the fuel gas are disposed on a diagonal line of separator 100A to define a gas passage. (Iwase et al., Fig. 2, col. 8, line 57 to col. 9, line 6).

Claims 21 to 23 are dependent on claim 17. Iwase et al. does not disclose “inlet port” required by claim 17 and thus does not cure the deficiency of Mizuno et al. with respect to claim 17. In view of the arguments presented above explaining why claim 17 is not unpatentable as anticipated by Mizuno et al., withdrawal of the rejection under 35 U.S.C. 103(a) of claims 21 to 23 is respectfully requested.

Rejections under 35 U.S.C. 103(a): Mizuno et al. and Kearl

Claim 25 stands rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Mizuno et al. in view of Kearl (U.S. Pub. 2003/0022052).

Mizuno et al. is described above. Kearl discloses a bipolar plate 10 that includes a sensor 17 that may be located within the bulk of bipolar plate 10 or on the surface of bipolar plate 10. (Kearl, Fig. 6, paragraph [0059]).

Claim 25 is dependent on claim 17. Kearl et al. does not disclose the “inlet port” required by claim 17 and thus does not cure the deficiency of Mizuno et al. with respect to claim 17. In view of the arguments presented above explaining why claim 17 is not unpatentable as anticipated by Mizuno et al., withdrawal of the rejection under 35 U.S.C. 103(a) of claim 25 is respectfully requested.

New Claims

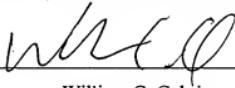
New dependent claims 38 to 40 have been added. Support for new dependent claims 38 to 40 is found in the specification for example at paragraphs [0008] and [0012]. Allowance of new claims 38 to 40 is also respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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